PROFILE SHEET
Fourth Grade

Publisher: MacMillan/McGraw-Hill
Text/Instructional Material Title: Science, Online Edition, 2004

Science Standard	Rating		
	Adequate	Limited	No Evidence
4.1		✓	
4.2	✓		
4.3	✓		
4.4	✓		
4.5	✓		
4.6		✓	
4.7	✓		
4.8	✓		
Additional Criteria			
4-AC.1	✓		
4-AC.2	✓		
4-AC.3	✓		
4-AC.4	✓		
4-AC.5	✓		

The Virginia Department of Education recommends to the Board of Education:

YES ✓ NO_____

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.1 The student will plan and conduct investigations in which			
a) distinctions are made among observations, conclusions, inferences, and predictions;	✓		
b) hypotheses are formulated based on cause and effect relationships;	✓		
c) variables that must be held constant in an experimental situation are defined;		✓	
d) appropriate instruments are selected to measure linear distance, volume, mass, and temperature;	✓		
e) appropriate metric measures are used to collect, record, and report data;	✓		
f) data are displayed using bar and basic line graphs;		✓	
g) numerical data that are contradictory or unusual in experimental results are recognized; and		✓	
h) predictions are made based on data from picture graphs, bar graphs, and basic line graphs.		✓	
Overall Rating for Standard		✓	

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.2 The student will investigate and understand characteristics and interaction of moving objects. Key concepts include			
a) motion is described by an object's direction and speed;		✓	
b) forces cause changes in motion;	✓		
c) friction is a force that opposes motion; and	✓		
d) moving objects have kinetic energy.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.3 The student will investigate and understand the characteristics of electricity. Key concepts include			
a) conductors and insulators;		✓	
b) basic circuits (open/closed, parallel/series);	✓		
c) static electricity;	✓		
d) the ability of electrical energy to be transformed into heat, light, and mechanical energy;	✓		
e) simple electromagnets and magnetism: and	✓		
f) historical contributions in understanding electricity.		✓	
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.4 The student will investigate and understand basic plant anatomy and life processes. Key concepts include			
a) the structures of typical plants (leaves, stems, roots, and flowers);	✓		
b) processes and structures involved with reproduction (pollination, stamen, pistil, sepal, embryo, spore, and seed);	✓		
c) photosynthesis (sunlight, chlorophyll, water, carbon dioxide, oxygen, and sugar); and	✓		
d) dormancy.		✓	
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.5 The student will investigate and understand how plants and animals in an ecosystem interact with one another and the nonliving environment. Key concepts include			
a) behavioral and structural adaptations;	✓		
b) organization of communities;	✓		
c) flow of energy through food webs;	✓		
d) habitats and niches;		✓	
e) life cycles; and	✓		
f) influence of human activity on ecosystems.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.6 The student will investigate and understand how weather conditions and phenomena occur and can be predicted. Key concepts include			
a) weather measurements and meteorological tools (air pressure-barometer, wind speed-anemometer, rainfall-rain gauge, and temperature-thermometer);		✓	
b) weather phenomena (fronts, clouds, and storms).		✓	
Overall Rating for Standard		✓	

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.7 The student will investigate and understand the relationships among the Earth, moon, and sun. Key concepts include			
a) the motions of the Earth, moon, and sun (revolution and rotation);	✓		
b) the causes for the Earth's seasons and phases of the moon;	✓		
c) the relative size, position, age, and makeup of the Earth, moon, and sun; and	✓		
d) historical contributions in understanding the Earth-moon-sun system.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4.8 The student will investigate and understand important Virginia natural resources. Key concepts include			
a) watershed and water resources;	✓		
b) animals and plants;		✓	
c) minerals, rocks, ores, and energy sources; and	✓		
d) forests, soil, and land.	✓		
Overall Rating for Standard	✓		

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
1. Safe use of materials and equipment is encouraged.	✓		
Overall Rating for Additional Criteria 1	✓		
2. Materials emphasize the use of effective instructional practices and learning theories. • Students are guided through different approaches such as the learning cycle. • Students are provided the opportunity to conduct scientific inquiry appropriate for their age, grade, and maturity. • Concepts are introduced through concrete experiences. • Students are required to use manipulative materials during investigations and activities. • Multiple opportunities are provided for students to apply concepts. • Learning activities offer opportunities for students to revise their prior knowledge and create new knowledge. • Students are encouraged to pose questions and to identify problems, as well as propose multiple solutions and design and conduct tests of inference. • Students collect and interpret data through a variety of technologies and draw conclusions based on that data.	✓		
Overall Rating for Additional Criteria 2	✓		

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
3. Materials present content in an accurate, unbiased manner, and are based on sound science. • Materials do not contain content errors (omissions of current content, out-of-date content, overgeneralizations, etc.).* • Materials do not contain production errors (misspelled words, word omissions, incorrect answers).* • Diverse groups (racial, ethnic, cultural, linguistic), males and females, people with disabilities, and people of all ages are represented appropriately. • The materials are free of non-scientific explanation.	✓		
Overall Rating for Additional Criteria 3	✓		

*Please note that the Department of Education does not certify that all inaccuracies and/or grammatical errors have been detected in this instructional item and reported in this correlation profile.

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4. Materials promote student assessment as an integral part of the instructional process. • Assessment suggestions and scoring criteria for student performances on work such as lab practicals or tasks, concept maps, research projects, observation checklists, etc., are provided. • Assessment items include multiple-choice, short answer, essay and open-ended questions with charts, graphs, and diagrams imbedded within the items. • Options include techniques for assessing students' prior knowledge. • Assessment items reflect the rigor and the intent of the standards. For example, they require students to use higher order thinking skills to apply, analyze, synthesize, evaluate, and make judgments or recommendations.	✓		
Overall Rating for Additional Criteria 4	✓		

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
5. Materials are presented in an organized, logical manner and are appropriate for the age, grade, and maturity of the students. • Materials are organized appropriately within and among units of study. • Format design includes titles, subheadings, and appropriate cross-referencing for ease of use. • Writing style, length of sentences, and vocabulary are appropriate. • Graphics and illustrations are appropriate. • Level of abstraction is appropriate, and real life examples, including careers are provided. • Sufficient applications are provided to promote depth of understanding.	✓		
Overall Rating for Additional Criteria 5	✓		